CASE REPORT

DIFFERENTIATED MALIGNANT MYOEPITHELIOMA OF THE PAROTID GLAND: A RARE CASE REPORT

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ABSTRACT

Malignant myoepithelioma (MM) is an epithelial malignant tumor in which predominant differentiation of the tumor cells are myoepithelial in nature. Dedifferentiated MM is an extremely rare entity. We report here a rare case of the parotid tumor of dedifferentiated MM with its many morphological and immunohistochemistry features.

Keywords: Dedifferentiated, malignant myoepithelioma, parotid gland, tumor

INTRODUCTION

Malignant myoepithelioma (MM) is an epithelial malignant tumor in which predominant differentiation of the tumor cells are myoepithelial in nature and it was considered to be an extremely rare entity.[1] However, it may be more common than previously thought.[2] We report here a rare case of the parotid tumor showing pleomorphic giant cell rich myoepithelioma, which was also been previously described as a dedifferentiated MM.[3]

CASE REPORT

A 27 - year -old male presented at the head and neck oncology OPD of a regional cancer center with a swelling on the right cheek region. The swelling was present since one year with a recent history of rapid increase in its size from the last one month. There was no associated facial deformity present. On examination; there was a firm to hard, non-tender, and mobile swelling of the right parotid gland. The swelling was 5cmX 4cm in its maximum dimension. The skin overlying the swelling was free. The clinical diagnosis of a parotid tumor was provisionally made.

Fine needle aspiration cytomorphology (FNAC) of the swelling was done. FNAC revealed pleomorphic round to epitheloid, plump spindly cells discrete and in loose clusters with moderate amount of granular cytoplasm and nucleolar prominence and many mitotic figures. No ductal and acinar cell groups were seen and also seen were many osteoclasts like giant cells and myxoid material in the background [Figure 1a].

The patient underwent wide excision (adequate parotidectomy) of the right parotid tumor. Grossly the post-operative specimen measured 4.5cm X 3.5 cm. The tumor was solid, homogeneous grey white in color, with areas of necrosis and myxoid change, but the adjoining salivary tissue was unremarkable [Figure 1b].

Histopathological examination (HPE) showed predominantly a pleomorphic spindle cell tumor with necrosis, hemorrhage, atypical mitotic figures and many osteoclast like tumor giant cells. Intermingling with it were scattered foci of epithelial cell clusters having clear cytoplasm in many and an occasional attempt at acinar formation [Figure 1c].

Immunohistochemistry (IHC) was done. IHC staining showed positivity for the expression of vimentin [Figure 2a], focally positive for cytokeratin (CK) [Figure 2b], and S-100 [Figure 2c]. The diagnosis of MM with dedifferentiated morphology was established after HPE and IHC.

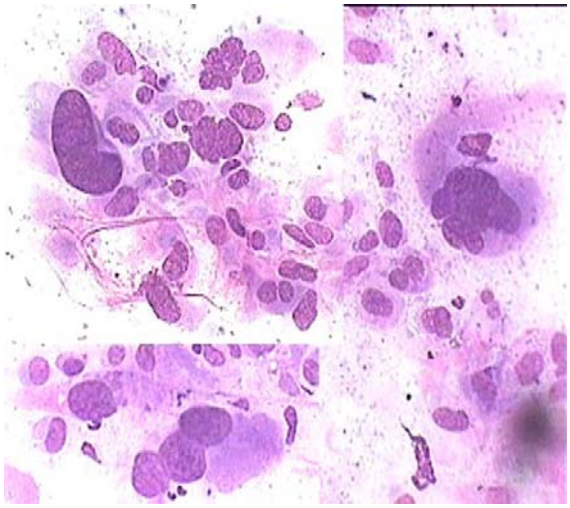

Figure 1(a): Photomicrograph of MGG stain, showing pleomorphic spindly cellular, giant cell, and myxoid matrix.

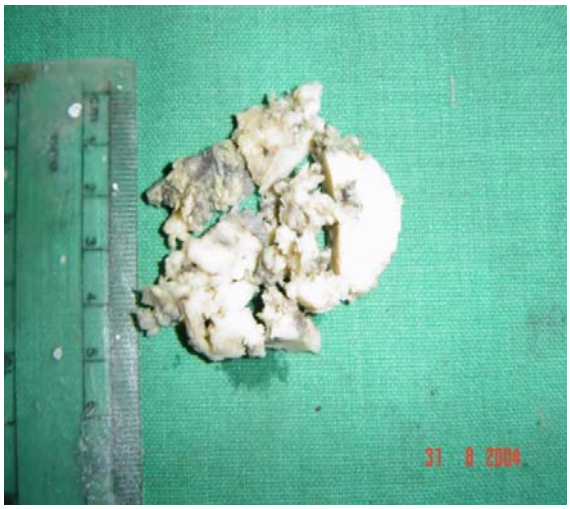

Figure 1(b): The picture shows the gross specimen of resected parotid gland.

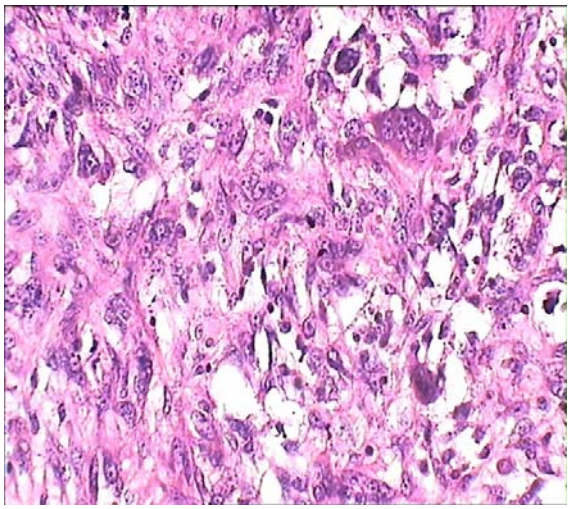

Figure1(c): Photomicrograph of hematoxylin and eosin stain (40X) showing pleomorphic spindle cell tumor area with osteoclast like giant cell

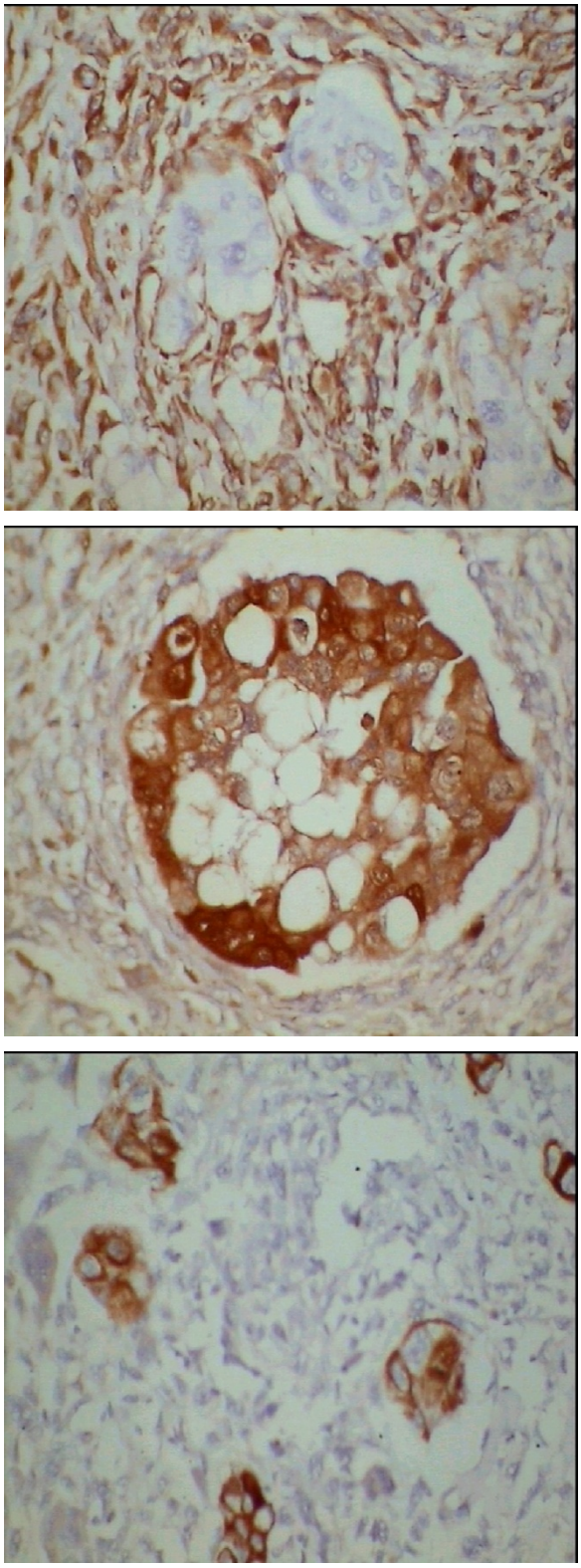

Figure 2: Immunohistochemistry study images showing positivity to (a) vimentin, (b) cytokeratin, and (c) S-100 protein.

DISCUSSION

The largest series of MM of the salivary glands to date is 10 cases by Di Palma and Guzzo which was

published in 1993.[4] Histologically in MM there is similar range of appearance to benign myoepithelioma. However, MMs are also composed of spindle cells which may be round, stellate or plasmocytoid cells, and it express S-100 protein, vimentin, CK and also, sometimes alpha-smooth muscle actin. In our case of MM, it was positive for the expression of vimentin, CK and S-100 on IHC study. Clear cells have occasionally been described as a minor component in MM and may rarely be the predominant type. [2,3] Histology and IHC supported the diagnosis of MM with features of dedifferentiation. MM also may include obvious pleomorphic sarcoma like areas and many tumor giant cells.[5] Primary sarcomas of salivary gland are rare and presented only in 0.6% of all salivary tumor in the Armed Forces Institute of Pathology salivary gland pathology registry.[1] Seifert *et al* reviewed 167 mesenchymal salivary gland tumors and found that 90% of mesenchymal salivary gland tumors occurred at the parotid glands.[6] Auelair *et al* reviewed 67 cases of sarcoma and sarcomatoid lesions of major salivary glands,[7] and discussed role of IHC in specific categorization and differentiation between a carcinoma and melanoma in salivary glands. Takata *et al* discussed the role of IHC in the interpretation of undifferentiated tumors of salivary gland. [8] In the present case as well IHC supported the diagnosis of dedifferentiated MM.

To the best of our knowledge, there is only one case report of dedifferentiated MM of the parotid gland published in the literature where it showed the presence of both undifferentiated and low grade myoepithelioma with characteristic IHC positivity. Because of the rarity of this entity authors would like to add this case report to the literature with its many morphological and IHC features.

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